

ley 17M174 (Au--121222). Veracruz: F. Chiang 343 [Rec. Inf. D005713] (E--2069123, Mi); Cox 850 [Herb. Cox 642] (Oa); Linden 18 in part (Mi); Ventura A. 3218 (Au--303916, Mi). GUATEMALA: Chiquimula: D. P. Gregory 589 (Ld). El Quiché: Heyde & Lux 2973 (W--58252, W--480109, W--1323176). Progreso: Popenoe 954 (W--1080609). Santa Rosa: Kellerman 7738 (W--2441980). Department undetermined: C. C. Deam 6092 (Mi). HONDURAS: Colón: Record & Kuylen s.n. [Olanchito] (W--1315435); Severén 19 (W--1209928). Comayagua: J. B. Edwards P.586 (Ca--522767, F--688135, W--1588678); P.601 (W--688152--isotype, W--1588669--type). El Paraíso: Barkley & Barkley 40156 (Ld). Morazán: C. V. Morton 7080 (W--2023246). EL SALVADOR: San Salvador: Calderón 268 (W--1151280); Renson 234 (W--399529); P. C. Standley 22755 (W--1138486). COSTA RICA: Guanacaste: Tonduz s.n. [Herb. Inst. Physico-geogr. Nat. Costaric. 13843] (W--577877, W--577878, W--1323170), s.n. [Herb. Inst. Physico-geogr. Nat. Costaric 16655] (W--578873). Puntarenas: Lankester s.n. [Jan. 1926] (W--1266801). JAMAICA: D. Hummel s.n. [29/4/1958] (S). INDIA: West Bengal: Mukherjee s.n. [16.3.68] (Ld). CULTIVATED: California: Jerabek s.n. [Balboa Park, Jan. 1945] (Sd--34943), s.n. [Pacific Beach, April 1945] (Sd--36096), s.n. [June 1945] (Sd--36463). Egypt: Mahdi s.n. [6/9/1961] (Gz), s.n. [6/11/1963] (Gz, Gz, Gz), s.n. [12/7/1964] (Gz, Gz), s.n. [24/4/1965] (Gz, Gz), s.n. [4/6/1967] (Gz, Gz, Gz); V. Täckholm s.n. [30/10/1959] (Gz). El Salvador: M. C. Carlson 503 (Ca--703622). Florida: Gifford & Totten s.n. [January 1, 1941] (Hi--22562); R. W. Read X-1-55 (Ft--2205). Hawaiian Islands: Judd, Bryan, & Neal s.n. [Sept. 25, 1937] (Mu); A. R. Moldenke 96 [H. N. Moldenke 21869] (Z). Sri Lanka: Collector undetermined s.n. [Royal Bot. Gard., May 1887] (Pd); Worthington 6967 (P, Pd). Thailand: Surapat 43 (W--2450874).

ADDITIONAL NOTES ON THE GENUS PETITIA. IV

Harold N. Moldenke

Herbarium acronyms used in this paper, as in all preceding ones in this and other series of notes in PHYTOLOGIA, are explained in full in my "Fifth Summary of the Verbenaceae...." (1971), pages 795--801.

PETITIA Jacq.

Additional synonymy: Petatia Dod & Fortuna, Bol. Jard. Bot. Moscoso 2 (3): 16, sphalm. 1975.

Additional & emended bibliography: P. Br. in Sloane, Civil Nat.

Hist. Jamaic., ed. 1, 265. 1756; Jacq., Select. Stirp. Amer. Hist. 17—18. 1768; P. Br. in Sloane, Civil Nat. Hist. Jamaic., ed. 2, imp. 1, 265. 1789; Raensch., Nom. Bot., ed. 3, 36 & 173. 1797; Batsch, Tabl. Aff. Reg. Veg. 193. 1802; Pers., Sp. Pl. 1: 338 & 358. 1817; Roem. in L., Syst. Veg., ed. 15 [Stuttg.], 95. 1820; Steud., Nom. Bot. Phan., ed. 1, 606. 1821; Spreng. in L., Syst. Veg., ed. 16, 1: 418 (1825) and ed. 16, 5: 521. 1828; Sweet, Hort. Brit., ed. 2, 417. 1830; Endl., Gen. Pl. 636. 1838; D. Dietr., Syn. Pl. 1: 430. 1839; Sweet, Hort. Brit., ed. 3, 551. 1839; Meisn., Pl. Vasc. Gen. 2: 199. 1840; Spach, Hist. Nat. Veg. Phan. 9: 227. 1840; Steud., Nom. Bot. Phan., ed. 2, 1: 309. 1840; Voigt, Hort. Suburb. Calc. 473. 1845; Schau., Linnaea 20: 483. 1847; Schau. in A. DC., Prodr. 11: 614, 627, 638, 639, & 647. 1847; Schnitzl., Iconogr. Fam. Nat. 2: 137 Verbenac. [3]. 1856; Buek, Gen. Spec. Syn. Candoll. 3: 73, 105, 338, & 365. 1858; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 46 & 386 (1893) and imp. 1, 2: 477. 1894; Dalla Torre & Harms, Gen. Siphonog., imp. 1, 432. 1904; A. R. Northrop in J. I. Northrop, Naturalist Bahamas 180, 204, & 211. 1910; Wangerin, Justs Bot. Jahresber. 53 (2): 645. 1925; Mold., Brittonia 1: 415 & 416. 1934; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 568. 1944; Mold., Alph. List Cit. 1: 308. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 46 & 386 (1946) and imp. 2, 2: 477. 1946; Hansford, Sydowia 9: 72. 1955; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 46 & 386 (1960) and imp. 3, 2: 477. 1960; Hansford, Sydowia Ann. Myc., ser. 2, Beih. 2: 693 & 696. 1961; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 432. 1963; Little & Wadsworth, Common Trees P. R. [U. S. Dept. Agr. Agric. Handb. 249:] 476 & 482—483, fig. 228. 1964; Dandy, Reg. Veg. 51: 121. 1967; Bovey, Morton, Baur, Diaz-Colon, Dowler, & Lehman, Weed Sci. 17: 540. 1969; Anon., Agricult. Ind. 35: 174. 1971; Anon., Biol. Abstr. 52 (15): B.A.S.I.C. S.187. 1971; Mold., Biol. Abstr. 52: 8221. 1971; Mold., Fifth Summ. 1: 6, 30, 93, 97, 101, 103, 105, 107, 110, 336, 382, 407, 417, 429, 430, & 434—436 (1971) and 2: 594, 595, 610, 757, 792, & 897. 1971; Mold., Phytologia 21: 146—148 & 510. 1971; M. Young, Weed Abstr. 20: 17. 1971; C. D. Adams, Flow. Pl. Jamaica. 627, 635, & 833. 1972; Alemán Frías, Aurich, Ezcurra Ferrer, Gutiérrez Vázquez, Hortsmann, López Rendueles, Rodríguez Graquitena, Roquel Casabella, & Schreiber, Die Kulturpfl. 19: 422. 1972; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 879 & 1043. 1973; P. Br. in Sloane, Civil Nat. Hist. Jamaic., ed. 2, imp. 2, 265. 1972; D'Arcy & Keating, Brittonia 25: 223. 1973; Hocking, Excerpt. Bot. A.21: 115. 1973; Howard, Journ. Arnold Arb. 54: 461. 1973; J. Hutchins., Fam. Flow. Pl., ed. 3, 487 & 950. 1973; López-Palacios, Revist. Fac. Farm. Univ. Andes 9 (13): 47. 1973; Mold., Phytologia 25: 242 & 509 (1973), 26: 508 (1973), and 27: 356. 1973; León & Alain, Fl. Cuba, imp. 2, 2: 280 & 311—312. 1974; Little, Woodbury, & Wadsworth, Trees P. Rico 2 [U. S. Dept. Agr. Agric. Handb. 449]: 854. 1974; A. L. Mold., Phytologia 29: 171. 1974; Dod & Fortuna, Bol. Jard. Bot. Moscú 2 (3): 16. 1975; Kooiman, Act. Bot. Neerl. 24: 462. 1975; Mold., Phytologia 29:

510 (1975) and 31: 27, 235, 379, 380, 394, & 406. 1975; Molina R., Ceiba 19: 96. 1975; Zimmerm. & Ziegler in Zimmerm. & Milburn, Transp. Pl. 1 [Pirson & Zimmerm., Encycl. Pl. Physiol., ser. 2, 1:] 502. 1975; Hocking, Excerpt. Bot. A.28: 170. 1976; Mold., Phytologia 33: 510 (1976) and 34: 253, 276, & 508. 1976; López-Palacios, Fl. Venez. Verb. 153 & 651. 1977; Mold., Phytologia 40: 488 & 510. 1978.

The Schnitzlein (1856) reference in the bibliography above is often cited as "1843-1870", but the page here involved was actually issued in 1856. Similarly, the Endlicher (1838) reference is often cited as "1836-1856", but the page involved here was issued in 1838.

Dalla Torre & Harms (1904) recognize 4 or 5 species in this genus and divide it into Sect. 1 Eupetitia Briq. and Sect. 2 Scleroon Briq. The latter section, however, is now regarded as belonging to Citharexylum B. Juss. León & Alain (1974) recognize only 2 species, both West Indian.

Schauer (1847) cites Swartz s.n. from Jamaica, Jacquin s.n., Bredemeyer s.n., and Bertero s.n. from Puerto Rico and Hispaniola, and Swartz s.n. in Herb. Willdenow 1148, the type collection of Citharexylum melanocardium Sw.

Hansford (1961) lists Petitia as host for the fungus, Meliola ambigua Pat. & Gaill., based on Ciferri 2578 bis from the Dominican Republic.

PETITIA DOMINGENSIS Jacq.

Additional synonymy: Petatia domingensis Dod & Fortuna, Bol. Jard. Bot. Moscoso 2 (3): 16. 1975. Citharexylum melanocum Broughton ex Powell, Econ. Bot. 31: 417. 1977.

Additional & emended bibliography: P. Br. in Sloane, Civil Nat. Hist. Jamaic., ed. 1, 265. 1756; Jacq., Hist. Stirp. Amer. 14: pl. 182, fig. 6. 1763; Jacq., Select. Stirp. Amer. Hist. 17-18. 1788; P. Br. in Sloane, Civil Nat. Hist. Jamaic., ed. 2, imp. 1, 265. 1789; Rausch., Nom. Bot., ed. 3, 36 & 173. 1797; Pers., Sp. Pl. 1: 338 (1817) and 3: 358. 1819; Steud., Nom. Bot. Phan., ed. 1, 202 & 506. 1821; Spreng. in L., Syst. Veg., ed. 16, 1: 418 (1825) and ed. 16, 5: 521. 1828; Sweet, Hort. Brit., ed. 2, 417. 1830; D. Dietr., Syn. Pl. 1: 430. 1839; Sweet, Hort. Brit., ed. 3, 551. 1839; Steud., Nom. Bot. Phan., ed. 2, 1: 309. 1840; Voigt, Hort. Suburb. Calc. 473. 1845; Buek, Gen. Spec. Syn. Candoll. 3: 73, 105, & 338. 1858; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 46 & 386 (1893) and imp. 1, 2: 477. 1894; A. R. Northrop in J. I. Northrop, Naturalist Bahamas 180, 204, & 211. 1910; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 46 & 386 (1946) and imp. 2, 2: 477. 1946; Hansford, Sydowia 9: 72. 1955; Alain in León & Alain, Fl. Cuba, imp. 1, 4: 311. 1957; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 46 & 386 (1960) and imp. 3, 2: 477. 1960; Hansford, Sydowia Ann. Myc., ser. 2, Beih. 2: 696. 1961; Little & Wadsworth, Common Trees P. R. [U. S. Dept. Agr. Agric. Handb. 249:] 476 & 482-483, fig. 228. 1964; Bovey, Morton, Baur, Diaz-Colon,

Dowler, & Lehman, *Weed Sci.* 17: 540. 1969; Anon., *Biol. Abstr.* 52 (15): B.A.S.I.C. S.187. 1971; Mold., *Biol. Abstr.* 52: 8221. 1971; Mold., *Fifth Summ.* 1: 30, 93, 97, 99, 101, 103, 105, 107, 110, 336, 382, 407, 417, 429, 430, & 434—436 (1971) and 2: 594, 595, 610, 792, & 897. 1971; Mold., *Phytologia* 21: 147—148. 1971; M. Young, *Weed Abstr.* 20: 17. 1971; Alemán Frías, Aurich, Ezcurrea Ferrer, Gutiérrez Vázquez, Horstmann, López Rendueles, Rodríguez Graquitená, Roquel Casabella, & Schreiber, *Die Kulturpfl.* 19: 422. 1972; C. D. Adams, *Flow. Pl. Jamaic.* 635 & 833. 1972; P. Br. in Sloane, *Civil Nat. Hist. Jamaic.*, ed. 2, imp. 2, 265. 1972; Farnsworth, *Pharmacog. Titles* 8 (8): xvi. 1973; Hocking, *Excerpt. Bot.* A.21: 115. 1973; Howard, *Journ. Arnold Arb.* 54: 461. 1973; J. Hutchins., *Fam. Flow. Pl.*, ed. 3, 487 & 950. 1973; Mold., *Phytologia* 27: 510. 1974; Alain in León & Alain, *Fl. Cuba*, imp. 2, 2: 311 & 312. 1974; Little, Woodbury, & Wadsworth, *Trees P. Rico* 2 [U. S. Dept. Agr. Agric. Handb. 449]: 854. 1974; Dod & Fortuna, *Bol. Jard. Bot. Moscoso* 2 (3): 16. 1975; Kooiman, *Act. Bot. Neerl.* 24: 462. 1975; Mold., *Phytologia* 31: 379, 380, 394, & 406. 1975; Zimmerm. & Ziegler in Zimmerm. & Milburn, *Transp. Pl.* 1 [Pirson & Zimmerm., *Encycl. Pl. Physiol.*, ser. 2, 1]: 502. 1975; Hocking, *Excerpt. Bot.* A.28: 170. 1976; Mold., *Phytologia* 34: 253 & 276. 1976; Powell, *Econ. Bot.* 31: 417. 1977; Mold., *Phytologia* 40: 488. 1978.

Emended illustrations: Little & Wadsworth, *Common Trees P. Rico* [U. S. Dept. Agr. Agric. Handb. 249:] 483, fig. 228. 1964.

Recent collectors describe this species as a bush, 1.5—3 m. tall, large shrub, or small tree, 5—8 m. tall, the leaves opposite, slightly viscid, and aromatic, the corolla 4-lobed, the filaments and style white, the anthers black, and the fruit fleshy, at first green, then red or black at maturity. They have found it growing on beaches and the sides of foothills, in transition to pineland areas, in montane forests, and in pinelands on limestone, in marshes behind dunes, on dry limestone hillsides and palm-broadleaf savannas, and in scrub forests on dogtooth limestone, at altitudes of sealevel to 1400 meters, flowering from February to April, June, August, and December, fruiting in June. They record the vernacular names, "capa", "English pigeon berry", and "fiddlewood". Sweet (1830) calls it the "netted-leaved callicarpa" and asserts that it was introduced into cultivation in England in 1826 from Jamaica.

Bancroft 24 is accompanied by a wood sample. Dawson 26558, Eggers 4201, and Leonard 4833 exhibit unusually narrow leaves approaching those of var. ekmani Mold., but not as narrow nor of the unusual shape of the latter taxon. Harris 9213 in the United States National Herbarium exhibits one 2-foliolate and one 3-foliolate leaves.

Molina (1975) records the species from Honduras, but if it occurs there it is most probably in cultivation, although he does not say that this is the case.

Alain (1974) reports that of this plant the "Madera dura y resistente, empleada en construcciones y mueblería [in Cuba]. Flores muy olorosas, melíferas". Bovey and his associates (1969) also report

that the tree is resistant to picloram herbicide spray even when rates up to 80 pounds were used.

Northrop (1910) reports the species from Andros and Grand Cayman islands. Adams (1972) asserts that in Jamaica it is "Common in secondary thickets, pastures and woodland on limestone", at altitudes of 10 to 2300 feet, and there flowering and fruiting "all the year". He cites Adams 6302, Harris 8776, and Proctor 8665 from Jamaica and reports it also from the Bahamas, Greater Antilles, Cayman Islands, and "cultivated elsewhere".

Hansford (1955, 1961) reports P. domingensis as host to the fungus, Meliola petitiae Hansf., based on Ciferri 2822 from the Dominican Republic.

Material of P. domingensis has been misidentified and distributed in some herbaria as Callicarpa hitchcockii Millsp. On the other hand, most of the collections hereinafter cited as var. poepigii (Schau.) Mold. were previously distributed and/or cited by me as typical P. domingensis.

Re-examination of some of the previously cited material shows the following, at least, represent the typical form, in addition to those cited below: Abbott 559, 2173, & 2215, Ekman H.2185, Faris 190 & 351, W. Harris 9213, León 12045b, E. C. Leonard 3843 & 4833, Leonard & Leonard 11575, 12527, 13913, & 15276, Maxon & Killip 1497, G. S. Miller 1328, Rose, Fitch, & Russell 3938, and Wright, Parry, & Brummel 355. The rest need re-examination.

Additional & emended citations: BAHAMA ISLANDS: Andros: Dawson 26558 (W--2458818). Cat: Byrne 125 (Ws). Grand Bahama: D. S. Correll 40624 (N); Gillis 7791 (Ba). New Providence: Burch 4201 (N); O. Degener 19061 (Ba). North Eleuthera: D. S. Correll 41156 (N, N). JAMAICA: C. D. Adams 6302 (Mu); Bancroft 24 (W--1555652); Crosby & Anderson 1118 (N); Webster 5115 (W--2227627). GREAT GOAT ISLAND: W. Harris 9213 (A, B, Bm, F--212232, N, W--524656). TORTUE: Leonard & Leonard 11575 (N, W--1450500), 12527 (N--photo, V, W--1451280, Z--photo), 13913 (A, W--1452494), 15276 (K, W--1453550). HISPANIOLA: Dominican Republic: Allard 14241 (W--1958272); Schiffino 102 (W--1781212). PUERTO RICO: Burch 3480 (N); Little 13080 (W--2633020); Vélez 771 (Lv). CULTIVATED: Colombia: Cuatrecasas 23088 (W--2817212); Duque-Jaramillo 4624a (N). Florida: Gillis 8689 (Ba).

PETITIA DOMINGENSIS var. EKMANI Mold.

Additional bibliography: Mold., Biol. Abstr. 52: 8221. 1971; Mold., Fifth Summ. 1: 103 (1971) and 2: 594 & 897. 1971; Mold., Phytologia 21: 148. 1971; Hocking, Excerpt. Bot. A.21: 115. 1973.

PETITIA DOMINGENSIS var. POEPPIGII (Schau.) Mold.

Synonymy: Petitia poeppigii Schau. in A. DC., Prodr. 11: 639. 1847. Petitia poeppingii Schau. ex Junell, Symb. Bot. Upsal. 4: 92, sphalm. 1934. Petitia poeppigii Jacq. ex Mold., Feddes Rep-

ert. Spec. Nov. 42: 238, in not. 1937; Prelim. Alph. List Inv. Names 33, in syn. 1940. Petitia poeppiggi Schau. ex Roig, Dicc. Bot. 2: 1076, in syn. 1953.

Bibliography: Schau. in A. DC., Prodr. 11: 639 & 647. 1847; Buek, Gen. Spec. Syn. Candoll. 3: 338. 1858; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 46 (1893) and imp. 1, 2: 386 & 477 (1894) and imp. 2, 1: 46 (1946) and imp. 2, 2: 386 & 477. 1946; Hill & Salisb., Ind. Kew. Suppl. 10: 68. 1947; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 46 (1960) and imp. 3, 2: 386 & 477. 1960; Mold., Fifth Summ. 2: 595. 1971; Alain in León & Alain, Fl. Cuba, imp. 2, 2: 312. 1974; Mold., Phytologia 31: 379, 380, & 406. 1975; Hocking, Excerpt. Bot. A.28: 170. 1976; Mold., Phytologia 34: 253. 1976.

Hitherto I have regarded this more or less pubescent-leaved plant as not worthy of nomenclatural recognition, but I now feel, after 50 years of examination of a long series of specimens, that it does deserve such recognition, albeit not on the specific level as thought by Schauer (1847). Time has not permitted me to re-examine all the collections previously cited by me as P. dominicensis to determine which of them should be transferred here, but those cited below definitely belong here. The variety is based on Poeppig s.n. from Las Piedras, Camaguey, Cuba, collected in February 1824 and deposited at Berlin. Several isotypes have been photographed by me and copies of the photographs have been deposited in various herbaria.

Recent collectors refer to the plant as a small shrub, 2 m. tall, or a small, spreading, branching tree, to 8 m. tall, the leaves clustered at the tips of the branches, the flowers fragrant, the fruit subglobose, orange-red or red. They have encountered it in coastal thickets and pastures, along brooks and rivers, in woods, open pinewoods, and among Pinus occidentalis, on shores and serpentine barrens, in thickets on otherwise open grassland, and in xerophytic formations, at altitudes of sealevel to 500 meters, flowering from February to April and June to November, fruiting in May, August, and September. It is reported as "very abundant" in the Dominican Republic. The vernacular names, "capa" and "guayo", are reported for it.

The corollas are said to have been "white" on Killip 43923, "cream" on Proctor 10926, "greenish-cream" on Valeur 981, and "pale-yellow" on Ekman 9316.

Most of the collections cited below were previously cited by me under typical P. domingensis Jacq. before the validity of this taxon was established and were so distributed. Material has also been misidentified and distributed in some herbaria as Guettarda sp. in the Rubiaceae.

Citations: BAHAMA ISLANDS: Cat: Coker 423 (N). Eleuthera: Correll & Hill 45101 (N). Mangrove: Coker 224 (N). New Providence: Curtis 136 [March 26] (A, B, Bm, Cb, Cb, Cb, Cb, Cm, E--118704, Ed, Es, F--144030, G, K, L, Le, Mu--3978, N, N, P, Vt, W--428641), 136 [May 18] (A, B, Bm, Cb, Cb, Cb, Cb, Cm, E--118704, Ed, Es, F--144030)

[to be continued]